

In the Claims

1 1. (Currently Amended) A micromechanical relay comprising:

2 a substrate;

3 a source contact mounted on said substrate;

4 a gate contact mounted on said substrate;

5 a pair of drain contacts mounted on said substrate; and

6 a metallic deflectable beam;

7 said metallic deflectable beam including,

8 a metallic conductive beam body having a first end and a second end,

9 said first end of said metallic conductive beam body being attached to said source
10 contact,

11 said metallic conductive beam body extending substantially in parallel to said
12 substrate such that said second end of said metallic conductive beam body extends over
13 said drain contacts,

14 a beam contact overhanging said drain contacts, and

15 an insulator positioned between said second end of said metallic conductive beam
16 body and said beam contact to join said second end of said metallic conductive beam
17 body to said beam contact and to electrically insulate said metallic conductive beam body
18 from said beam contact;

19 said second end of said metallic conductive beam body, said beam contact, and said
20 insulator forming stacked planar layers.

1 2. (Currently Amended) The micromechanical relay as claimed in claim 1, wherein said
2 metallic deflectable beam is deflectable to a first position, said first position being when said
3 beam contact is in electrical communication with said drain contact in response to an electrical
4 field of a first strength established between said gate electrode and said metallic conductive beam
5 body;

6 said metallic deflectable beam being deflectable to a second position, said second position
7 being when said beam contact is electrically isolated from said drain contact in response to an

8 electrical field of a second strength established between said gate electrode and said metallic
9 conductive beam body.

1 3. (Original) The micromechanical relay as claimed in claim 1, wherein said substrate
2 comprises oxidized silicon or glass.

1 4. (Currently Amended) The micromechanical relay as claimed in claim 1, wherein said
2 metallic deflectable beam body comprises nickel, gold, titanium, chromium, copper, or iron.

1 5. (Original) The micromechanical relay as claimed in claim 1, wherein said insulator
2 comprises polyimide or PMMA.

1 6. (Original) The micromechanical relay as claimed in claim 1, wherein said insulator
2 comprises silicon nitride, silicon oxide, or aluminum oxide.

1 7. (Original) The micromechanical relay as claimed in claim 1, wherein said drain contact
2 comprises platinum, palladium, titanium, tungsten, rhodium, ruthenium, or gold.

1 8. (Original) The micromechanical relay as claimed in claim 1, wherein said gate contact
2 comprises platinum, palladium, titanium, tungsten, rhodium, ruthenium, or gold.

1 9. (Original) The micromechanical relay as claimed in claim 1, wherein said source
2 contact comprises platinum, palladium, titanium, tungsten, rhodium, ruthenium, or gold.

1 10. (Original) The micromechanical relay as claimed in claim 1, wherein said
2 micromechanical relay is incorporated into an electrical circuit.

1 11. (Currently Amended) A method for making a micromechanical relay, comprising:
2 (a) forming a source contact, a gate contact, and a pair of drain contacts upon a substrate;

3 (b) forming a sacrificial region over the source contact, gate contact, drain contacts, and
4 substrate;

5 (c) forming a conductive beam contact region on the sacrificial region having the drain
6 contacts thereunder;

7 (d) forming an insulative region over the beam contact region; and

8 (e) forming a metallic conductive beam body on the source contact, the metallic
9 conductive beam body being formed further to extend laterally over the sacrificial region and the
10 insulative region such that the metallic conductive beam body, the beam contact region, and the
11 insulative region form stacked planar layers, the formed metallic conductive beam body
12 extending laterally substantially over the source contact, gate contact, and drain contacts.

1 12. (Original) The method as claimed in claim 11, wherein the substrate comprises
2 oxidized silicon or glass.

1 13. (Currently Amended) The method as claimed in claim 11, wherein the metallic
2 conductive beam body comprises nickel, gold, titanium, chrome, chromium, copper, or iron.

1 14. (Original) The method as claimed in claim 11, wherein the insulative region
2 comprises polyimide or PMMA.

1 15. (Original) The method as claimed in claim 11, wherein the insulative region
2 comprises silicon nitride, silicon oxide, or aluminum oxide.

1 16. (Original) The method as claimed in claim 11, wherein the drain contact comprises
2 platinum, palladium, titanium, tungsten, rhodium, ruthenium, or gold.

1 17. (Original) The method as claimed in claim 11, wherein the gate contact comprises
2 platinum, palladium, titanium, tungsten, rhodium, ruthenium, or gold.

1 18. (Original) The method as claimed in claim 11, wherein the source contact comprises
2 platinum, palladium, titanium, tungsten, rhodium, ruthenium, or gold.

1 19. (Original) The method as claimed in claim 11, wherein the sacrificial region
2 comprises titanium, titanium-tungsten, or copper.